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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,625	04/12/2004	Michael Krebs	HENK-0066/H5395	3301
38857	7590	06/22/2010	EXAMINER	
WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			NILAND, PATRICK DENNIS	
ART UNIT	PAPER NUMBER			
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/822,625	KREBS ET AL.
	<b>Examiner</b>	Art Unit
	Patrick D. Niland	1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

1) Responsive to communication(s) filed on **24 March 2010**.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

4) Claim(s) **1-8,10-13 and 16-34** is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) **1-8,10-13 and 16-34** is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date 2/8/10

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

1. The amendment of 3/24/10 has been entered. Claims 1-8, 10-13, and 16-34 are

pending.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8, 10-13, and 16-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

A. There is not basis in the originally filed specification for requiring the new recitation “which are solid at room temperature” relating to the instantly claimed polyester-polyols. Page 7, paragraph [0020] of the originally filed specification is noted. However, it requires ““Solid at room temperature” in the context of this invention means that the composition is crystalline, partly crystalline and/or vitreously amorphous...” This section relates to the composition as a whole, not the polyester polyol. While the claims have required the polyester polyol to be crystalline, partly crystalline and/or vitreously amorphous, the amorphous segments in fact indicate liquid property, as evidenced by the definition of “viscosity average molecular weight, which is well known and found in basic polymer texts. The argued reference relating to what is meant by crystalline polymers is noted. The reference also states that polymers are not 100% crystalline, they are partly crystalline. In other words all polymers have amorphous regions. The applicant’s characterization that partly crystalline polyols would not be expected to

contain a liquid component ignores the fact that the amorphous regions are liquid components, although they may be very high viscosity polymers. See again the definition of "viscosity average molecular weight" and "amorphous". It appears that the entire document has not been provided. The examiner would be interested in considering any further references to amorphous which may be in the argued "Semicrystalline Polymers" document argued by the applicant. The examiner concedes that the viscosity is a function of temperature as is the existence of crystalline segments. The examiner notes the well known definitions of crystalline melting point and glass transition temperature in polymers. While the addition of "solid at room temperature" of the instant claims clearly differentiates the polyester polyols of the instant claims from those of the patentee, because the examiner takes the patentee's "liquid" to mean relatively low viscosity and the instant claim's "solid" to mean relatively high viscosity at room temperature, again noting the definition of viscosity average molecular weight in polymers, it was not clear from the recitation of crystalline, partly crystalline and/or vitreously amorphous of the claimed polyester polyols under what conditions, such as temperature, that they had to be crystalline, partly crystalline, or vitreously amorphous. The examiner notes that within the temperatures commonly encountered by us, water is liquid and crystalline.

The new recitation of "which are solid at room temperature" relating to the instantly claimed polyester-polyols is therefore new matter.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8, 10-13, and 16-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. It is unclear what is intended by the scope of the instant claims, particularly the instantly claimed polyalkylene diols in view of the applicant's amendment to the claims cancelling "polyether polyols", the recitation of "polyether polyol" in the instant claims 10 and 11, the clear meaning of "polyalkylene diol" in the instant claims as established e.g. at component (c), which defines them as polyether polyols, and the applicant's argument that the instantly claimed component (i)(b) does not include polyether polyols. It is unclear if there is not antecedent basis for the polyether polyols of the instant claims 10 and 11, if the polyether polyols of the instant claims 10 and 11 are limited to diols by the claimed polyether diols or if the polyalkylene diols are broadened to polyols by claims 10 and 11, particularly the recitation of polyether polyol therein, i.e. polyalkylene diols, or if the claims have some other scope.

6. Claims 10 and 11 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In the event that polyether polyol of the instant claims 10 and 11 is intended to broaden the polyether polyols, e.g. the polyalkylene diols, of the instant claims 1 and 4 from diols to the full scope of "polyols", claims 10 and 11 fail to further limit the subject matter of a previous claim as is required of the above cited rule.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-8, 10-13, 16-22, 24-25, 27-31, and 34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of U.S.

Patent No. 5994493 Krebs. Although the conflicting claims are not identical, they are not patentably distinct from each other because, although the claims differ somewhat in scope, it would have been obvious to one of ordinary skill in the art to practice the instantly claimed inventions from the claims of the patentee because the patented claims encompass the instantly claimed invention. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional compounds of the patented claims are encompassed by "consisting essentially of", because the applicant has not shown any additional materials of the prior art's reaction product falling within the scope of the instantly claimed component (i) to materially affect the basic and novel characteristics of the composition per MPEP 2111.03 "The transitional phrase "consisting essentially of" limits the scope of a claim to the

specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976)" and "comprising" of the instant claims. The instant claims therefore encompass the additional components of the cited prior art, including the argued aromatic diol because these components have not been shown probatively to materially affect the basic and novel characteristics of the instantly claimed invention. "Different properties" contributed by the aromatic polyols of the patentee are not excluded by "consisting essentially". All additional components are expected to contribute "different properties". The proper test is as stated in the legal definition of "consisting essentially of" which is noted above. The applicant has not shown any additional materials of the prior art's reaction product falling within the scope of the instantly claimed component (i) to materially affect the basic and novel characteristics of the composition per MPEP 2111.03 "The transitional phrase "consisting essentially of" limits the

scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. The applicant has not made such a showing. The claims are taken as including the additional components of the prior art therefore.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language “at least one compound”. The polyol ii falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the patentee’s claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Note that the polyalkylene diol of the instant claims is a polyether polyol, according to the instant claims, particularly the instant claim 1, component (c) and the instant claims 10 and 11. See the prior art disclosure of polyethylene glycol, polypropylene glycol, and polytetramethylene glycol and note that all of these terms are polyether polyols of the nomenclature form polyalkylene diol, i.e. glycol. Claim 9 of the patentee recites 2,4’ diphenylmethane diisocyanate. For these reasons, the applicant’s arguments are not persuasive on their face regarding the instant claims. The ability to melt, indicated by “hotmelt” of the patentee indicates that the patentee’s hotmelt adhesive has the properties of the reaction product of the instant claim 12. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29. The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 1, 16-17, and 22 based on the definition of average molecular weight and is capable of the claimed migration based on the definitions of viscosity average molecular weight, intrinsic and inherent viscosities. The composition of the patented claims inherently contain the instantly claimed adhesion-intensifying additive properties since these

lower molecular weight polyisocyanate adducts contain groups capable of reacting with some substrate which necessarily intensifies adhesion over adhesives which give no covalent bonding and will inherently have the claimed vapor pressure since their molecular weights will also exclude volatilization to any appreciable extent. The applicant's arguments regarding what is required of inherency are agreed with. The applicant's arguments that the instant inherency rejection does not meet the inherency requirements is not agreed with. All real polymer samples contain a mixture of molecules of varying molecular weights as indicated by the concept of "average molecular weight. All polymer molecules contain at least some amorphous character, which necessarily means that they can migrate. Volatility is related to molecular weight per basic organic chemistry considerations taught in undergraduate organic chemistry. Therefore some fraction of the molecules of the prior art have the instantly claimed volatility coupled with the other properties of the instantly claimed component (ii). The applicant's arguments regarding monomeric diisocyanates being volatile is not commensurate with the stated rejection therefore because it does not address these non-volatile molecular weight fractions which are not monomeric diisocyanates argued by the applicant. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric

isocyanate meets the instant claim 14. The process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the patented claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims.

The applicant's argument that Krebs requires an aromatic polyol that is excluded by "consisting" of the instant claims is not persuasive. The instant claims recite that the component (i) "consists essentially of", not that it "consists of". Furthermore, "at least one compound" including two or more of the recited polyols and do not exclude the polyethers from being initiated by the aromatic polyol of the reference. The applicant's arguments that the claimed polyethers do not include the polyethylene and polypropylene glycols of column 5, lines 5-15 of the patentee are not commensurate in scope with the instant claims, which do not recite the initiator species for the claimed polyether polyols and the reaction products of the disclosed aromatic diols with the propylene and ethylene oxide will necessarily give polypropylene and polyethylene glycols which fall within the scope of those of the instant claims which do not exclude the aromatic moiety therefrom. The applicant's arguments regarding the aromatic diols of the patentee are not commensurate in scope with the instant claims for this reason also. See claim 1 and the recitations pertinent to the polyol alkoxylation product of at least one aromatic dihydroxy compound of component aii of claim 1 of Krebs, which is encompassed by the instant

claim language "polyether-polyols" and the specific polyether glycols claims, as noted above.

There is no evidence that the polyurethane of Krebs contains more monomeric isocyanate than encompassed by claim 2 and does not disclose the amounts of the instant claims 6-8. The applicant's arguments have been fully considered but are not persuasive for the reasons above. The applicant's arguments have been fully considered but are not persuasive in view of the above rejection and the claimed subject matter of the patentee. This rejection is therefore maintained.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-8, 10-13, 16-22, 24-25, 27-31, and 34 are rejected under 35

U.S.C. 102(b) as being anticipated by US Pat. No. 5994493 Krebs.

Krebs discloses the instantly claimed adhesives and methods of making them at the abstract; column 4, lines 23-67, particularly lines 23-25, 27-32, 40-52 and 57-60; column 5, lines 5-67 of which the "polyalkylene diols", i.e. polyethylene glycol, polypropylene glycol, and polytetramethylene glycol of the instantly claimed molecular weights, e.g. below 1000, of lines 20-33 continues to fall within the scope of the instantly claimed component (i)(b) contrary to the

applicant's argument to the contrary, per the definition of polyalkylene diol, which as is seen from the instant claims 1 and 10, component (c) is a polyether polyol, e.g. a diol in the instant case; column 6, lines 1-67; column 7, lines 1-67, particularly 1-6; column 10, lines 1-67, particularly 18-45, 53, and 53-67; column 11, lines 1-67, particularly 1-18; column 12, lines 1-67, particularly 11 and 36-39; column 13, lines 1-8; column 14, lines 1-7, particularly 5-7; and the remainder of the document. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional components of the patented claims are encompassed by "consisting essentially" of the instant claims. Any additional components of the component (i) of the instant claims remain encompassed by "consisting essentially of" because the applicant has not demonstrated any additional components of the cited prior art to materially affect the basic and novel characteristics of the compositions in which (i) recites "consisting essentially of" in a manner commensurate in scope with the instant claims and the cited prior art. See MPEP 2111.03 [R-3] Transitional Phrases.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language "at least one compound". The polyol ii falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Claim 9 of the patentee recites 2,4' diphenylmethane diisocyanate. For these reasons, the applicant's arguments are not persuasive on their face regarding the instant claims. The remaining ingredients of the instant claim 1 are optional, i.e. not required. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29.

The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 1, 16-17, and 22 based on the definition of average molecular weight and is capable of the claimed migration based on the definitions of viscosity average molecular weight, intrinsic and inherent viscosities. The composition of the patented claims inherently contain the instantly claimed adhesion-intensifying additive properties since these lower molecular weight polyisocyanate adducts contain groups capable of reacting with some substrate which necessarily intensifies adhesion over adhesives which give no covalent bonding and will inherently have the claimed vapor pressure since their molecular weights will also exclude volatilization to any appreciable extent. The applicant's arguments regarding what is required of inherency are agreed with. The applicant's arguments that the instant inherency rejection does not meet the inherency requirements is not agreed with. All real polymer samples contain a mixture of molecules of varying molecular weights as indicated by the concept of "average molecular weight. All polymer molecules contain at least some amorphous character, which necessarily means that they can migrate. Volatility is related to molecular weight per basic organic chemistry considerations taught in undergraduate organic chemistry. Therefore some fraction of the molecules of the prior art have the instantly claimed volatility coupled with the other properties of the instantly claimed component (ii). The applicant's arguments regarding monomeric diisocyanates being volatile is not commensurate with the stated rejection therefore because it does not address these non-volatile molecular weight fractions which are not monomeric diisocyanates argued by the applicant. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the

patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric isocyanate meets the instant claim 14. The process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims.

The applicant's argument that Krebs requires an aromatic polyol that is excluded by "consisting" of the instant claims is not persuasive. The instant claims recite that the component (i) "consists essentially of", not that it "consists of". Furthermore, "at least one compound" including two or more of the recited polyols and do not exclude the polyethers from being initiated by the aromatic polyol of the reference. The applicant's arguments that the claimed polyethers do not include the polyethylene and polypropylene glycols of column 5, lines 5-15 of the patentee are not commensurate in scope with the instant claims, which do not recite the initiator species for the claimed polyether polyols and the reaction products of the disclosed aromatic diols with the propylene and ethylene oxide will necessarily give polypropylene and

polyethylene glycols which fall within the scope of those of the instant claims which do not exclude the aromatic moiety therefrom. The applicant's arguments regarding the aromatic diols of the patentee are not commensurate in scope with the instant claims for this reason also. The instant claims recite "at least one compound" including two or more of the recited polyols and do not exclude the polyethers from being initiated by the aromatic polyol of the reference. See claim 1 and the recitations pertaining to the polyol alkoxylation product of at least one aromatic dihydroxy compound of component aii of claim 1 of Krebs, which is encompassed by the instant claim language "polyether-polyols". There is no evidence that the polyurethane of Krebs contains more monomeric isocyanate than encompassed by claim 2 and does not disclose the amounts of the instant claims 6-8.

The polyether polyols of the patentee having two OH groups, i.e. diol, and the instantly claimed molecular weights fall within the scope of the instantly claimed polyether polyols having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Note that the polyalkylene diol of the instant claims is a polyether polyol, according to the instant claims, particularly the instant claim 1, component (c) and the instant claims 10 and 11. See the prior art disclosure of polyethylene glycol, polypropylene glycol, and polytetramethylene glycol and note that all of these terms are polyether polyols of the nomenclature form polyalkylene diol, i.e. glycol. The applicant's arguments that the prior art does not teach use of a compositions containing the polyols of component (i)(b) of the instant claim 1 is therefore not correct.

"Different properties" contributed by the aromatic polyols of the patentee are not excluded by "consisting essentially". All additional components are expected to contribute "different properties". The proper test is as stated in the legal definition of "consisting essentially of" which is noted above. The applicant has not shown any additional materials of the prior art's reaction product falling within the scope of the instantly claimed component (i) to materially affect the basic and novel characteristics of the composition per MPEP 2111.03 "The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. The applicant has not made such a showing. The claims are taken as including the additional components of the prior art therefore.

Crystallinity arguments do not apply to the instantly claimed polyether polyols, i.e. polyalkylene diols and the final product of the patentee has the properties of the instant claim 12 as defined by "melt" of "hotmelt" as it relates to polymers.

The applicant's argument that the patentee does not teach the instantly claimed amount of monomeric diisocyanate content is rebutted by the fact that the patentee requires no monomeric diisocyanate in their final product, which reads on the instantly claimed amounts of monomeric diisocyanate. There is no probative evidence that the final product of the patentee has amounts of monomeric diisocyanate outside of the instantly amounts thereof. The argued examples of the instant specification are not the compositions of the cited prior art. The patentee is not limited to their examples. See the above cited portion of the patentee that uses only the instantly claimed diisocyanate to make their polyurethanes. Note also that the patentee stirs their reaction products

in vacuo for 30 minutes at increased temperatures, which will remove volatiles. The applicant's arguments in this regard are therefore not persuasive.

The applicant's arguments have been fully considered but are not persuasive in view of the above rejection and the full disclosure of the patentee. This rejection is therefore maintained.

12. Claims 1-8, 10-13, and 16-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 5994493 Krebs.

Krebs discloses the instantly claimed adhesives and methods of making them at the abstract; column 4, lines 23-67, particularly lines 23-25, 27-32, 40-52 and 57-60; column 5, lines 5-67; column 6, lines 1-67; column 7, lines 1-67, particularly 1-6; column 10, lines 1-67, particularly 18-45, 53, and 53-67; column 11, lines 1-67, particularly 1-18; column 12, lines 1-67, particularly 11 and 36-39; column 13, lines 1-8; column 14, lines 1-7, particularly 5-7; and the remainder of the document. Moisture curing hotmelt adhesive encompasses the instantly claimed reactive adhesives. Any additional components of the patented claims are encompassed by "consisting essentially" of the instant claims. Any additional components of the component (i) of the instant claims remain encompassed by "consisting essentially of" because the applicant has not demonstrated any additional components of the cited prior art to materially affect the basic and novel characteristics of the compositions in which (i) recites "consisting essentially of" in a manner commensurate in scope with the instant claims and the cited prior art. See MPEP 2111.03 [R-3] Transitional Phrases.

The instant claims encompass using mixtures of polyether polyols of the claimed molecular weight by the language "at least one compound". The polyol ii falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 and component i of the

patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Claim 9 of the patentee recites 2,4<sup>1</sup> diphenylmethane diisocyanate. For these reasons, the applicant's arguments are not persuasive on their face regarding the instant claims. The remaining ingredients of the instant claim 1 are optional, i.e. not required. The patentee defines the claimed polyisocyanates as being the instantly claimed isocyanate at column 7, lines 1-6 of their specification and claims 9, 18 and 29.

The lower molecular weight fraction of the claimed patented adhesive is the adhesion promoter of the instant claims 1, 16-17, and 22 based on the definition of average molecular weight and is capable of the claimed migration based on the definitions of viscosity average molecular weight, intrinsic and inherent viscosities. The composition of the patented claims inherently contain the instantly claimed adhesion-intensifying additive properties since these lower molecular weight polyisocyanate adducts contain groups capable of reacting with some substrate which necessarily intensifies adhesion over adhesives which give no covalent bonding and will inherently have the claimed vapor pressure since their molecular weights will also exclude volatilization to any appreciable extent. The applicant's arguments regarding what is required of inherency are agreed with. The applicant's arguments that the instant inherency rejection does not meet the inherency requirements is not agreed with. All real polymer samples contain a mixture of molecules of varying molecular weights as indicated by the concept of "average molecular weight. All polymer molecules contain at least some amorphous character, which necessarily means that they can migrate. Volatility is related to molecular weight per basic organic chemistry considerations taught in undergraduate organic chemistry. Therefore some fraction of the molecules of the prior art have the instantly claimed volatility coupled with

the other properties of the instantly claimed component (ii). The applicant's arguments regarding monomeric diisocyanates being volatile is not commensurate with the stated rejection therefore because it does not address these non-volatile molecular weight fractions which are not monomeric diisocyanates argued by the applicant. The claimed amounts can be thought of as being divided out of the bulk polymer without affecting the polymer of the patentee's claims which reads on the instant claims 16-17. Furthermore, the temperatures and catalysts of the patentee will necessarily give some trimerization of the polyisocyanates used in making the polymer, particularly the amine catalysts as is well documented in the art which meets the instant claim 18. The claimed NCO:OH ratios encompass those of the instant claims 4-5. Where the lower amounts of NCO are used, the free monomer contents of claims 20-21 and 24-25 are encompassed. The use of only 2,4' MDI encompasses the instant claims 6-8. Free monomeric isocyanate meets the instant claim 14. The process claims are silent regarding reaction temperature and therefore encompass all temperatures at which polyols and polyisocyanates can react, which encompasses the instantly claimed reaction temperatures of the instant claims 27-29 because these reactions are well known to occur below the claimed temperatures, particularly when catalyst is used.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims.

It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to perform the methods and make the adhesives of the patentee such that they fall within the scope of the instant claims because the patentee's disclosure and claims

encompasses the instantly claimed inventions and the instantly claimed adhesives and methods of making them would have been expected to give the properties disclosed by the patentee.

It would have been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the component of the instant claim 23 in the adhesive of the patentee because Krebs teaches that up to 10% triisocyanate may be used at column 4, lines 40-52 and trimethylolpropane and glycerol are the most common and well known means for achieving such triisocyanate prepolymers by reacting them with the typical well known diisocyanate monomers. It would have at least been obvious to one of ordinary skill in the art at the time of the instantly claimed invention to use the adhesion promoter of the instant claim 26 because Krebs teaches the use of additives to the adhesive to enhance its properties and aminosilanes having alkoxy silane functionality are well known for giving adhesion promotion to NCO functional hot melt adhesives and would have been expected to provide this function to the adhesives of Krebs.

Since the compositions of the copending claims are the same as the instant claims, they are expected to be inherently solid as is also indicated by "hot melt". Claim 1 has molecular weights falling within the scope of those of the instant claims. It is not seen that the higher molecular weight polyols of the patentee do not give the adhesion promotion of the instant claims 32-35 by the modulus they contribute to the final product.

The applicant's argument that Krebs requires an aromatic polyol that is excluded by "consisting" of the instant claims is not persuasive. The instant claims recite that the component (i) "consists essentially of", not that it "consists of". Furthermore, "at least one compound" including two or more of the recited polyols and do not exclude the polyethers from being initiated by the aromatic polyol of the reference. The applicant's arguments that the claimed

polyethers do not include the polyethylene and polypropylene glycols of column 5, lines 5-15 of the patentee are not commensurate in scope with the instant claims, which do not recite the initiator species for the claimed polyether polyols and the reaction products of the disclosed aromatic diols with the propylene and ethylene oxide will necessarily give polypropylene and polyethylene glycols which fall within the scope of those of the instant claims which do not exclude the aromatic moiety therefrom. The applicant's arguments regarding the aromatic diols of the patentee are not commensurate in scope with the instant claims for this reason also. The instant claims recite "at least one compound" including two or more of the recited polyols and do not exclude the polyethers from being initiated by the aromatic polyol of the reference. See claim 1 and the recitations pertaining to the polyol alkoxylation product of at least one aromatic dihydroxy compound of component aii of claim 1 of Krebs, which is encompassed by the instant claim language "polyether-polyols". There is no evidence that the polyurethane of Krebs contains more monomeric isocyanate than encompassed by claim 2 and does not disclose the amounts of the instant claims 6-8.

The polyether polyols of the patentee having two OH groups, i.e. diol, and the instantly claimed molecular weights fall within the scope of the instantly claimed polyether polyols having a Mn of less than 1000 and component i of the patentee's claim 1 falls within the scope of the instantly claimed polyether polyol having a Mn of less than 1000 when its Mn is below 1000. Note that the polyalkylene diol of the instant claims is a polyether polyol, according to the instant claims, particularly the instant claim 1, component (c) and the instant claims 10 and 11. See the prior art disclosure of polyethylene glycol, polypropylene glycol, and polytetramethylene glycol and note that all of these terms are polyether polyols of the nomenclature form

polyalkylene diol, i.e. glycol. The applicant's arguments that the prior art does not teach use of a compositions containing the polyols of component (i)(b) of the instant claim 1 is therefore not correct.

"Different properties" contributed by the aromatic polyols of the patentee are not excluded by "consisting essentially". All additional components are expected to contribute "different properties". The proper test is as stated in the legal definition of "consisting essentially of" which is noted above. The applicant has not shown any additional materials of the prior art's reaction product falling within the scope of the instantly claimed component (i) to materially affect the basic and novel characteristics of the composition per MPEP 2111.03 "The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. The applicant has not made such a showing. The claims are taken as including the additional components of the prior art therefore.

Crystallinity arguments do not apply to the instantly claimed polyether polyols, i.e. polyalkylene diols and the final product of the patentee has the properties of the instant claim 12 as defined by "melt" of "hotmelt" as it relates to polymers.

The applicant's argument that the patentee does not teach the instantly claimed amount of monomeric diisocyanate content is rebutted by the fact that the patentee requires no monomeric diisocyanate in their final product, which reads on the instantly claimed amounts of monomeric diisocyanate. There is no probative evidence that the final product of the patentee has amounts of monomeric diisocyanate outside of the instantly amounts thereof. The argued examples of the instant specification are not the compositions of the cited prior art. The patentee is not limited to

their examples. See the above cited portion of the patentee that uses only the instantly claimed diisocyanate to make their polyurethanes. Note also that the patentee stirs their reaction products in *vacuo* for 30 minutes at increased temperatures, which will remove volatiles. The applicant's arguments in this regard are therefore not persuasive.

The applicant's arguments have been fully considered but are not persuasive in view of the above rejection and the full disclosure of the patentee. This rejection is therefore maintained.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to 3 whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Friday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Patrick D Niland/  
Primary Examiner,  
Art Unit 1796